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MEMORANDUM

SUBJECT: Report of Data Validation of Phenols and PAH's for the Ridgefield Brick and Tile Project.

FROM: JN Blazevich, Chief
GC/MS Section

TO: Marcia Bailey
Project Officer

THRU: Michael M. Johnston, Chief
Laboratory Branch

The following is a QA data review of the phenols and PAH analysis of water samples collected at Ridgefield Brick and Tile and performed at the Manchester Laboratory. This review covers the following samples:

91130150	91130156	91130164
91130152	91130158	91130166
91130154	91130162	91130168

The project code for these samples is HWD-127A and the account number is AGDD3A.

Data Qualifications

The following comments refer to the laboratory performance in meeting the Quality Control specifications outlined in the "CLP Statement of Work, Organic Analysis, revision 2/88."

I. Holding Times: Acceptable.

The samples were held seven days or less between collection and extraction. The extracts were held less than forty days between extraction and analysis. No data qualifiers are required due to exceeding holding times.

II. GC/MS Tuning and Performance: Acceptable

The tuning summary agreed with the raw data. All decafluorotriphenylphosphine ion abundance met criteria. All sample analyses were preceded by a tune less than 12 hours prior to analysis. No data qualifiers are required on the basis of tuning data.

III. Initial Calibration: Acceptable

A four point calibration curve was constructed for most target compounds on 4/26/91 from a linear regression of the selected ion monitoring data. The calculation of the relative response factors was checked and the calculation method was correct.

All phenolic and PAH analytes met the SPCC criterion. All relative response factors were acceptable.

IV. Continuing Calibration: Acceptable

The response factors for all phenolic and PAH compounds were above 0.05. No qualifiers are required on the basis of the continuing calibration performed on 4/29/90.

V. Blanks: Acceptable.

Two blanks were analyzed with the extraction batch. Two analytes, phenol and naphthalene, were found to be present in the blanks at 0.06 and 0.005 ug/L. Neither of these compounds were reported in a sample unless the concentration in that sample exceeded 5 times that found in the blanks.

VI. Surrogates: Acceptable.

All surrogate recoveries were acceptable for all extracted blanks, spikes and samples. No qualifiers are required due to surrogate recovery results.

VII. Matrix Spike/Matrix Spike Duplicate: Acceptable.

The recoveries of spiked analytes in matrix spike and matrix spike duplicate samples were acceptable. No qualifiers were assigned on the basis of matrix spike/matrix spike duplicate results.

VIII. Internal Standards Performance: Acceptable.

The retention time variations of all internal standards were within 30 seconds of the daily standard, which is acceptable. The area% of all the internal standards fell within the specified 50% to 200% of the daily standard. No data qualifiers are required on the basis of internal standards data.

IX. TCL Compound Identification: Acceptable.

All TCL compounds' relative retention times were within 0.06 units of the related standards in the continuing calibration standard. All criteria were met for mass spectral ion matching and ion abundance matching.

X. Compound Quantitation:

All calculations were performed using the initial calibration curve except those of the matrix spike (MS) and matrix spike duplicate (MSD). The MS and MSD results were calculated using the standard response factors obtain on the day the spike samples were analyzed. This was done to better approximate the higher concentrations in the spike samples since the amounts in the daily standard were of the same magnitude.

The lower concentrations of the target analytes found in the samples and blanks were calculated using the response factor computed by a linear fit to the lower concentration data from the initial calibration curve regardless of which day the samples were analyzed on. The higher concentrations of the initial calibration curve were excluded from these calculations. This action was deemed appropriate since the high portion of the curve did not fit well with the lower portion of the curve.

The overall effect of this action is that the MS and MSD results were computed using single point calibration and the sample and blank results were computed using response factors from the linear fit of the multiple analytical analyses of the initial calibration. As a consequence, all positive results are considered estimates and are given the qualifier "J". Further, since MDL's for the target analytes have not been established in this laboratory when selected ion monitoring is used, all PQL values are estimates and are given the qualifier "UJ".

Overall Assessment for the Case

The usefulness of the data is based on the criteria outlined in the "Laboratory Data Validation Function Guidelines for Evaluating Organics Analyses" (2/1988).

All of the requirements for data qualifiers from the preceding sections were accumulated. Each sample data summary sheet and each compound was checked for positive or negative results. From this, the overall need for data qualifiers for each analysis was determined. In cases where more than one of the preceding sections required data qualifiers, the most restrictive qualifier has been added to the data.

This data, although qualified as estimated, is reasonable and may be used for most actions. It could be used for regulatory actions but only with reluctance. Should questions arise regarding the qualification of data and its relation to the usefulness, the reader is encouraged to contact the Region 10 laboratory.

DATA QUALIFIERS

U - The analyte was analyzed for but not detected at or above the reported value.

J - The analyte was analyzed for, and positively identified. The associated numerical value is an estimate only.

REJ - The data are unusable for all purposes. The analyte was analyzed for, but the presence of the analyte has not been verified.

N - There is presumptive evidence the compound is present in this sample.

NJ - There is presumptive evidence that the analyte is present. The associated numerical value is an estimate.

UJ - The analyte was analyzed for but not detected at or above the reported estimated value.

NAR - No analytical result.

EXP - The value is equal to the number before EXP times 10 to the power of the number after EXP. As an example 3EXP6 equals 3×10^6.

***** - The analyte was present in the sample. (Visual Aid to locate detected compound on report sheet).